Original Article

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A Experience with Non –Descent Vaginal Hysterectomy a Study as Natural Minimal Assisted Route

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Abstract

Aims: Purpose of this study is to put forward NON DESCENT VAGINAL HYSTERECTOMY as procedure of choice for the management of patients with non-malignant pelvic disease involving the uterus, whenever technically feasible. *Methods:* A prospective study carried out to determine the short term morbidity for vaginal hysterectomy done for non descent uterus. The study was done on 200 patients scheduled to undergo hysterectomy for benign conditions during the period of January 2007 to December 2012, at Umaid Hospital, Jodhpur. A written informed consent was taken from each patient. A preformed questionnaire was made for data collection. Exclusion criteria included were uterine size of more than (>20wks), restricted mobility of uterus, uterine malignancy, cervix flushed with vaginal vault, previous fistula repair and gross adenexal pathology. *Observation:* Total 200 hysterectomies were performed during the study period, vaginal route was employed in all patients but few of them converted to laprotomy(1%). Out of 200 vaginal hysterectomies maximum 68 (34%) patients were in age group 40-45 years.DUB is most common (42%) indication for the vaginal hysterectomies. Vaginal hysterectomies were successful in most of case but 2 case required laprotomy. Mean operative time was 50-60 minutes with 100-150 ml blood loss and mean average hospital stay was 4day. Complication was minimal except few had rectal (2%)injury. *Conclusion:* Non Descent Vaginal Hysterectomy is safe, minimally invasive natural orifice, scarless hysterectomy which can be done easily, faster with shorter anesthesia. Early and smooth post operative recovery, early return to work and cost effectiveness. For obese patients and patients with history of preexisting cardio-pulmonary disease there is excellent patients recovery with least complications.

Keywords: NDVH; Fibroid; Haemorrhage; Spinal Anesthesia.

Introduction

Hysterectomy is the commonest operative procedure performed in genecology. Abdominal hysterectomy is undoubtedly the most popular route, 70-80 % of the hysterectomy done by abdominal route[1]. Laparoscopy assisted vaginalhysterectomy (LAVH) and total laparoscopic hysterectomy (TLH) although gainingmore popularity, is associated with higher cost [2], longer duration of operation, andspecially trained personnel. On the other hand, vaginal hysterectomy is associatedwith reduced morbidity and lower health care costs compared to laparoscopictechniques [3]. Non Descent Vaginal hysterectomy is a new approach with advantage of quicker recovery, shorter hospital stay, cost effective and decrease morbidity. But even than "Non Descent Vaginal Hysterectomy" has not been widely practiced. It does not require extra training and skill but it has a learning curve. In modern India Sheth [4] has brought forth new dimension in NDVH with his experience of 5655 vaginal hysterectomies.

We need to change traditional teaching and mindset of operating surgeon as well as resident training. To start with, Non Descent Vaginal Hysterectomy takes longer time but later on it can be performed even earlier than abdominal hysterectomy. The trend is changing now and in most part of world vaginal route of hysterectomy for non-malignant

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conditions of uterus and, without prolapse, preferred with the ratio of abdominal to vaginal hysterectomy changed from 4:1 to 1:4. Non descent vaginal hysterectomy is major revival of a hysterectomy, which was described, in the early 1800s. It is better substitute to abdominal hysterectomy which is more invasive, costly, and more morbid. It is a more skilled procedure and has a learning curve, but nevertheless can be mastered provided correct approach & technique is adopted. Gaining expertise in Non Descent Vaginal Hysterectomy would mean, serving 80% of the world i.e. developing countries better.

Material & Methods

A prospectivestudy carried out to determine the short term morbidity for vaginal hysterectomy done for non descent uterus. The study was done on 50 patients scheduled to undergo hysterectomy for benign conditions during the period of January 2007 to December 2009, at Umaid Hospital, Jodhpur. A detailed account of age, social, marital status and history was taken. Through general physical and pelvic examination performed. Cases underwent detailed workup to elaborate Patient different medical & surgical problems. Preoperative ultrasonography was done to diagnose, assess the size, site and number of fibroid and any adnexal pathology examination under anesthesia will be an integral part of assessment of feasibility of hysterectomy by vaginal route. A written informed consent was taken from each patient. A preformed questionnaire was made for data collection. Exclusion criteria included were uterine size of more than (18 wks), restricted mobility of uterus, uterine malignancy, cervix flushed with vaginal vault, previous fistula repair and gross adnexal pathology. Along with this narrow pelvic outlet was an also important exclusion criterion. Uterovaginal prolapse of any degree was also not included in the study. Provided the correct approach and technique is adopted, an indication of hysterectomy and absence of any contraindication to the vaginal route of hysterectomy, were sufficient marker to perform vaginal hysterectomy.

Results

Table 1: Age distribaution

Age (In Yrs.)	No. of Cases (Total No. of Case-200)	Percentage
30-35	4	2%
35-40	56	28%
40-45	68	34%
45-50	40	20%
50-55	32	16%

Table 2: Distribution of cases acc. To weight

Weight	No. of Cases (Total No. of Case-200)	Percentage
60-65 Kg.	20	10%
66-70Kg.	12	6%
71-75Kg.	48	24%
76-80%	60	30%
>80 Kg.	60	30%

Table 3: Distribution acc. To parity

Parity	No. of Cases (Total No. of Case-200)	Percentage
Nullipara	4	2%
Para- 2	38	19%
Para- 3	42	21%
Para – 4	68	34%
Para – 5	48	24%

In our study all patients were between the ages of 30 to 55 years, maximum 68(34%) patients were in age group 40-45 years. 56(28%) patients were in age group 35-40 years, 40(20%) patientswere in age group 45-50 years, 32(16%) patients were in age group50-55 years and 4 (2%) patients were in age group 30-35 years.

In our study 20(10%) patients had weight between 60-65 kg., 12(6%) patients had weight between 66-70 kg., 48(24%) patients had weight between 71-75 kg, 60(30%) had weight between 76-80 kg. and 60(30%) patients had weight >80 kg.

In our study all most all patients had one or more vaginal deliveries. Maximum patients (68 cases – 34%) were of parity 4, 48(24%) cases were of parity 5, 42(21%) cases were of parity 3 and 38(19%) cases were of parity 2. Only 4(2%) cases were nulliparous.

Table 4: Distribution acc. To associated disease

Diseases	No. of Cases (Total No. of Case-200)	Percentage
Anaemia	120	60%
Hypertension	64	32%
Koch's Chest (T.B.)	4	2%
Diabetes Mellitus	16	8%
COPD*	4	2%

Table 5: Distribution acc to preoperative blood transfusion

Units of Blood Transfusion	No. of Cases (Total No. of Case-200)	Percentage
1 Unit	88	44%
2 Units	20	10%
3 Units	12	6%

Table 6: Distribution acc. To previous history of previous surgery

Type of Operation	No. of Cases (Total No. of Case-200)	Percentage
Abdominal Tubal Ligation	144	72%
Lower Segment Cesarean Section	12	6%
Manchester Repair	4	2%

Table 7: Distribution acc. To minor procedure done preoperatively to rule out malignancy & to confirm diagnosis

Type of Minor Procedure	No. of Cases (Total No. of Case-200)	Percentage
Dilatation and Curettage	112	56%
Dilatation and Curettage with Biopsy Cervix	12	6%

Table 8: Distribution acc. To hormone therapy prior to surgery

Hormone Theray	No. of Cases (Total No. of Case-200)	Percentage
Tab Nor Ethisterone	40	20%
Tab Medroxy Progesterone	20	10%
Inj. Depot Provera	16	8%
Oral Contraceptive Pills	8	4%

Table 9: Distribution acc. To indication of surgery

Indication	No. of Cases (Total No. of Case-200)	Percentage
Leiomyoma Uteri	76	38%
Dysfunctional Uterine Bleeding	84	42%
Adenomyosis	32	16%
Chronic Cervicitis	8	4%

Out of 50 Cases Studied 120(60%) cases had Anemia, 64(32%) Cases had Hypertension. Diabetes Mellitus was present in 16(8%) cases and C.O.P.D.* in 4(2%) and Tuberculosis in 4(2%) case.These cases were posted for hysterectomy after control of their associated diseases and correction of anemia.

In this study, Blood Transfusion was given preoperatively, in 120(60%) cases. 88(44%) were given one unit , 20 (10%) were given two units & 12 (6%) cases had 3 units blood transfusion according to severity of anemia.

In the Present study of 200 cases, Abdominal Tubal Ligation in 144(72%), Lower Segment Cesarean Section 12(6%), Manchester Repair 4(2%) case. 40 (20%) patients had no history of previous surgery.

In the present study of 200 cases, dilatation and Curettage was done in 112(56%) and Dilatation and Curettage with Biopsy Cervix in 12(6%) cases to rule out malignancy.

In the present study, hormonal therapy (Tab. nor ethisterone) was given three times a day to 40(20%) cases, Tab. Medroxy Progesterone in 20(10%), Inj. Depot Provera in 16(8%), Ocp's in 8(4%) cases.

In present study, the indications of hysterectomy was Fibroid in 76(38%), DUB in 84(42%) cases, Adenomyosis in 32(16%) cases and Chronic Cervicitis in 8(4%) cases.

In present study, uterine size was 12 Wksin maximum number of patients 80(40%). In 32(16%) cases uterine size was 10 Wks, in 28(14%) cases uterine size was 8 Wks, in 28(14%) cases uterine size was 6 Wks, in 24(12%) cases uterus size was 14 Wks and in 4(2%) cases uterus size was 16 Wks. Maximum uterine size operated was of 18 Wks in 4(2%) cases.

Table 10: Distribution acc. To size of uterus

Size of Uterus (In Weeks of Gestation)	No. of Cases (Total No. of Case-200)	Percentage
6 Wks	28	14%
8 Wks	28	14%
10 Wks	32	16%
12 Wks	80	40%
14 Wks	24	12%
16 Wks	4	2%
18 Wks and more	4	2%

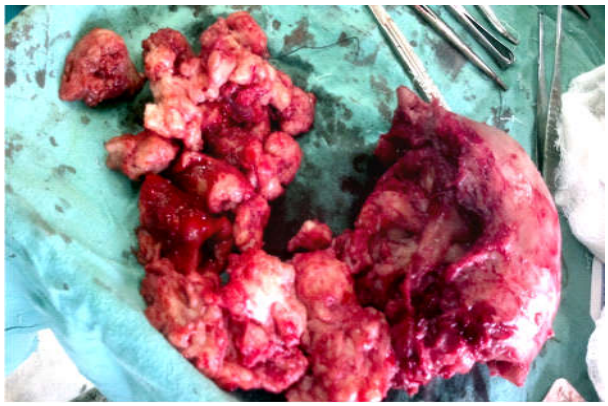

Fig. 1: A large fibroid (22wks size) removed through true key hole by NDVH

Table 11: Distribution acc. To condition of vaginal fornices

Condition of Vaginal Fornix	No. of Cases (Total No. of Case-200)	Percentage
Free	168	84%
Thickened	20	10%
Adnexal mass	12	6%

Table 12: Distribution acc. To type of anaesthesia

Type of Anesthesia	No. of Cases (Total No. of Case-200)	Percentage
General	8	4%
Spinal	184	92%
Epidural	8	4%

Table 13: Distribution acc. To type of operation

Problems	No. of Cases (Total No. of Case-200)	Percentage
Non Descent Vaginal Hysterectomy	152	76%
Non Descent Vaginal Hysterectomy with Unilateral Salpingo-Oophorectomy	12	6%
Non Descent Vaginal Hysterectomy with Anterior Repair.	16	8%
Non Descent Vaginal Hysterectomy with both Anterior & Posterior Repair.	16	8%
Non Descent Vaginal Hysterectomy with Posterior Repair.	4	2%

Table 14: Distribution acc. To technique used

Technique	No. of Cases(Total No. of Case-200)	Percentage
Bisection	20	10%
Myomectomy	8	4%
Morcellation	6	3%
Wedge Resection	6	3%
Intact Uterus	160	80%

In our study fornices was free in 168(84%) cases, Thickened in 20(10%) due to previous pelvic inflammatory disease. In 12(6%) case unilateral Adnexal mass was present.

The type of Anesthesia was spinal in 184(92%) cases, epidural in 8(4%) cases and general in 8(4%) cases.

Only hysterectomy done in 152(76%) cases,

hysterectomy with unilateral salpingo-oophorectomy in 12(6%) cases. In these cases unilateral ovarian cyst of 5 cm in 2 cases & 10 cm in one case, were present which were freely mobile & not solid. These unilateral ovaries were removed after aspiration of cyst fluid, while normal looking ovaries were preserved. In this study 16(8%) cases had vaginal hysterectomy with anterior and posterior repair, 16(8%) cases had hysterectomy with anterior repair and 4(2%) cases had vaginal hysterectomy with posterior repair.

Most of uterus (80%) was delivered out intact in 160 cases, only 20% case required debulking techniques such as bisection in 10 % myomectomy in 4% ,morcelation in 3% and wedge resection in 3% cases.

In our series there was no intra operative difficulty in 150(75%) cases. There was difficulty in bladder separation and opening anterior pouch in 32(16%) and difficulty in opening posterior pouch was encountered in 8(4%). There was 4(2%) cases of rectal injury and 4(2%) cases had bleeding due to slipped clamp which was controlled by legating pedicles immediately. There was no cases of bladder injury. Conversion to Laparotomy was required in 1(1%) case.

In our study Mean Blood Loss was <80cc in 24 (12%) cases, 80-160cc in 140(70%) cases, 160-240cc in 32(16%) cases and >240cc in 4(2%) cases.

In present study, in most of the patients, operative time was 45 mts. to 1 hr. in 132(66%) cases. Operative time was 1-1½ hrs in 56(28%) cases and 1½ -2 hrs in 8 (4%) cases. Only 4(2%) cases had prolonged operative time of > 2 hrs.

In post operative complications pain in 60(30%) cases, febrile morbidity in 40(20%) cases, Urinary Tract Infection in 4(2%) case, excessive vaginal discharge in 4(2%). Urinary retention due to bladder atony was present in 4(2%) for which prolonged catheterization done.

In our study most of the patients 82% were

Table 15: Distribution acc. To intraoperative problems and complications

Intra operative Problems	No. of Cases (Total No. of Case-200)	Percentage
Difficulty in Bladder Separation	32	16
Difficulty in opening posterior pouch.	8	4%
Primary bleeding due to slipped clamp	4	2%
Bladder Injury	Nil	Nil
Rectal Injury	4	2%
Conversion To Laparotomy	2	1%
Un Eventful	150	75%

Table 16: Distribution acc. To mean blood loss

Mean Blood Loss	No. of Cases (Total No. of Case-200)	Percentage
<80cc	24	12%
80-160cc	140	70%
160-240cc	32	16%
>240cc	4	2%

Table 17: Distribution acc. Mean operative time

Mean Operative Time	No. of Cases (Total No. of Case-200)	Percentage
45 mts. –1 hr.	132	66%
1 hr – 1 ½ hrs.	56	28%
1 ½ hrs – 2 hrs.	8	4%
>2 hrs.	4	2%

Table 18: Distribution acc. To post operative morbidity and complications

Complications	No. of Cases (Total No. of Case-200)	Percentage
Pain	60	30%
Fever	40	20%
Excessive Vaginal Discharge	8	2%
Urinary Tract Infection	4	2%
Bladder Atony	4	2%

Table 19: Distribution acc. To ambulation

Ambulation	No. of Cases (Total No. of Case-200)	Percentage
In 24 hrs.	164	82%
In 48 hrs.	28	14%
After 48 hrs.	8	4%

Table 20: Distribution acc. To post operative hospital stay

Post Operative Stay In Days	No. of Cases (Total No. of Case-50)	Percentage
3 days	40	20%
4 days	124	62%
5 days	24	12%
6 days and more	12	6%

ambulatory in 24 hrs. (14%) cases were ambulatory in 48 hrs and only (4%) cases were ambulatory after 48 hrs because they have rectal injury and urinary retention.

In the study post operative hospital stay in maximum cases 124 62%) was 4 days. Post operative hospital stay was 3 days in 40(20%) cases and 5 days in 24(12%) cases. Only 12(6%) cases required prolonged hospital stay of 6 days and more as one case had urinary retention due to atonic bladder, other had rectal injury which needed colostomy and one case had concomitant fistula in ano.

Discussion

Hysterectomy is a 'signature' procedure for all gynecologists and as a frequently done surgery the "Best" route is imperative in the interests of the patients. One of the most dramatic change in the route of removal of the uterus during the last few years is switching over from abdomen to vaginal route, irrespective of uterine descent, volume or previous surgery. Non Descent Vaginal Hysterectomy is recent advance and innovation in surgery that has changed the views of gynec surgeons. Non Descent Vaginal Hysterectomy is removal of uterus through the vaginal route, where the position of uterus is anatomically normal, undescended and there is no prolapse of uterus .The usual contraindications for vaginal hysterectomy are absence of significant uterovaginal prolapse, presence of uterine enlargement, adhesions and the need foroophorectomy. With adequate vaginal access and good uterine mobility, vaginalhysterectomy can be easily performed. The uterosacral and cardinal ligaments,situated in close proximity to the vaginal vault once clamped and cut produce firstdegree descent. Multiparity, lax tissues following multiple deliveries and decreasedtissue tensile strength provide comfort to vaginal surgeon even in the presence ofuterine enlargement. The other important reason for the lower proportion ofhysterectomies performed vaginally is the presence of uterine enlargement withleiomyomas or adenomyosis. However, bulky uteri can be dealt with techniques likebisection, myomectomy or debulking. In our study, 200 patients without descentunderwent these procedures for successful removal of the uterus. Davies et al [5] and Mazdisnian et al [6] also resorted to these techniques. We were successful inremoving uteri of up to 20 weeks pregnancy size vaginally without any increase insurgical complications, blood loss, operative time or hospital stay. Similar findings were reported by Unger [7] who operated upon uteri weighing 200 to 700 gm,without any increase in complications as compared to abdominal hysterectomies. Complications in our study were minor and few (2%) had major such as rectal injury and some requiedlaprotomy (2%) . Kumar and Antony [8] successfullycarried out vaginal hysterectomies in 95% (76/80) and 60 of their patients needed morcellation or hemisection or myomectomy. They consider vaginal hysterectomysafe upto 12 weeks size. Das and Sheth [9] use ultrasongraphic calculation of uterinevolume for assessing the feasibility of vaginal hysterectomy. They needed debulking for uteri with a volume of more than 300cm^3. It has been demonstrated that ovariesare visible and accessible to transvaginal removal in most cases [10]. The length of hospital stay reported by Dorsey JH et al [11] was 3.5 and 4.5 days fortotal vaginal and total abdominal hysterectomy respectively. In our series hospitalstay was3-5 days. Vaginal hysterectomy in women with non-descent and moderatelyenlarged uteri is safe.

Conclusions

Given below are based on our experience of vaginal hysterectomy in non descent uterus. There are several benefits to the patients in terms of –

1. Cosmetic advantage as no visible scar.
2. Avoids all discomforts of abdominal incision.
3. Not going through several layers of abdomen.
4. Shorter anesthesia.
5. Shorter operative time.
6. Less blood loss
7. Minimal tissue trauma.
8. Less morbidity.
9. Less intra operative and post operative

complications.

10. Smooth post operative period and faster recovery.
11. Less requirement of Post operative analgesia.
12. Early ambulation.
13. Enhanced patients comfort.
14. Better post operative quality of life outcomes.
15. Short hospital stay and early discharge.
16. Cost effective.
17. Early return to work and normal household activities.
18. For obese woman it is a real benefit.
19. In patients with associated medical problems like diabetes mellitus, hypertension and cardiovascular disease, non descent vaginal hysterectomy is less invasive, acceptable alternative to abdominal surgery.

Non Descent Vaginal Hysterectomy is safe, minimally invasive natural orifice, scarless hysterectomy which can be done easily, faster with shorter anesthesia. Early and smooth post operative recovery, early return to work and cost effectiveness. For obese patients and patients with history of preexisting cardio-pulmonary disease there is excellent patients recovery with least complications.

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